

Appl. No. 09/909,900
Amdt. Dated: April 22, 2005
Reply to Office Action of: April 7, 2005

Amendments to the Specification

Please delete the paragraphs between page 2, line 25 and page 3, line 30.

Please insert the following new paragraphs at page 2, line 25:

In one aspect, the present invention provides a system of extracting a visual feature from a volumetric dataset using an approximate volume. The system comprises a display for displaying the volumetric dataset; an input device for defining a selected number of regions distributed in the displayed volumetric dataset, each of the regions containing a cross section of the visual feature therein; an interpolator for generating the approximate volume containing the selected regions, the approximate volume comprising a set of voxels selected from the dataset; an operator for specifying a plurality of voxels not containing the visual feature in the set of voxels to generate a mask; and a volume renderer for using the mask to render the volumetric dataset to extract the visual feature therefrom. The selected number of regions are a subset of the total number of images contained in the volumetric dataset.

In another aspect, the present invention provides a method for extracting a visual feature from a volumetric dataset, using an approximate volume. The method comprises the steps of displaying the volumetric dataset; defining a selected number of regions distributed in the displayed volumetric dataset, each of the regions containing a cross section of the visual feature therein; generating through interpolation, the approximate volume comprising a set of voxels selected from the volumetric dataset; specifying a plurality of voxels not containing the visual feature in the set of voxels to generate a mask; and rendering using the mask on the volumetric dataset to extract the visual feature therefrom. The selected number of regions are a subset of the total number of images contained in the volumetric dataset.

In yet another aspect, the present invention provides an article of manufacture comprising a computer usable medium having a computer readable program code embodied therein for extracting a visual feature from a volumetric dataset using an approximate volume, the dataset

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representing an image of an object, the computer readable program code in the article of manufacture comprising; the computer readable program code configured to cause the computer to display the dataset; the computer readable program code configured to cause the computer to receive input for defining a selected number of regions distributed displayed volumetric dataset, each of the regions containing a cross section of the object therein; the computer readable program code configured to cause the computer to generate through interpolation the approximate volume containing the selected regions, the approximate volume comprising a set of voxels selected from the volumetric dataset; the computer readable program code configured to cause the computer to use the mask for rendering the volumetric dataset to extract the object therefrom. The selected number of regions are a subset of the total number of images contained in the volumetric dataset.